

REMARKS

By this Amendment, claim 34 and 47 are amended to correct clear typographical errors. Claims 1-47 are pending.

The Office Action rejected claims 1–16, 21–34, 39–42, 44 and 46–47 under 35 U.S.C. 102(e) as being anticipated by Barany et al. (U.S. Patent Application publication 2002/0034166; hereafter “Barany”) and rejected claims 17-20, 35-38, 43 and 45 under 35 U.S.C. 103(a) as being unpatenable over Barany and Schmid et al. (U.S. 6,735,291; hereafter “Schmid”). Applicants traverse the rejection because Barany and Schmid, analyzed individually or in combination, fail to disclose, teach or suggest all the features recited in the claimed invention.

A CSCF IS NOT A USER-PLANE ENTITY

The prior art rejections are based on various mischaracterizations of the teachings of Barany. The most significant mischaracterization is that the Call State Control Function (CSCF) is a user-plane entity. That characterization is not correct. The CSCF is merely a control entity.

In fact, Barany merely discloses a communications system including a wireless access network that is coupled to a packet-based data network. In Barany, packet-based calls are established between a mobile station coupled to the wireless access network and a network end port coupled to the data network. For efficient call setup and call release, call control signalling, such as a Session Initiation Protocol (SIP) messages and ReSource reserVation Protocol (RSVP) messages, are carried in traffic channels over a wireless network.

However, Barany fails to disclose, teach or suggest a communications system having different control-plane and user-plane logical entities. Although the Office Action referred to a mobile station 20 and a terminal 40 of the packet-switched data network, illustrated in Fig. 3, these are only “end-user devices” rather than “different control plane and user-plane logical entities of a communications system” as recited in the rejected claims.

In fact, Barany fails to disclose, teach or suggest a user-plane logical entity at all, or that the signalling embedded in user-plane traffic is sent to such a user-plane logical entity. Rather, Barany merely teaches sending the SIP signalling to a control entity, namely the CSCF. However, such a teaching would teach away from the claimed invention, wherein the embedded call setup signalling is sent to a user-plane logical entity.

BARANY FAILS TO TEACH OR SUGGEST CALL SETUP  
SIGNALLING EMBEDDED IN USER-PLANE TRAFFIC

As a result of the above-identified deficiencies, Barany fails to teach or suggest starting a one-to-one call by call setup signalling embedded in user-plane traffic sent from a calling subscriber to one of the user-plane logical entities, that embedded signalling identifying a call subscriber, as recited in the rejected claims. Rather, Barany merely teaches sending SIP signalling on a traffic channel to a CSCF module.

Accordingly, Barany merely teaches using SIP signalling, as control-plane signalling, which is separate from the user-plane traffic. That configuration does not correspond to the claimed invention; rather, such a configuration is consistent with prior art techniques discussed and differentiated from the invention in paragraphs [0003], [0004] and [0005] of Applicant's specification (shown below).

[0003] The most common call type is a call established between two parties for one-to-one communication. The standard way to set up a two-party call requires explicit control plane's signaling that allows the call parties to establish a channel where the audio data can be transferred and to negotiate the communication capabilities, for example the audio codec and the relative compression rate can be determined in this phase. Afterwards the actual voice communication can start and the audio data can be transmitted by the call parties.

[0004] Voice over Internet Protocol (VoIP) enables a speech communication over an IP connection. The Session Initiation Protocol (SIP, RFC2543), the standard protocol used for call establishment in "VoIP" based communication systems, requires some amount of signaling for each SIP session setup. In particular for two-party call an end-to-end "three round" INVITE transaction (by which a SIP session is initiated) has to be performed. The INVITE request asks the called party to join a particular two-party conversation. After the called party has agreed to participate in the call (by 200OK message), the caller confirms that it has received that response by sending an ACK request. The INVITE request typically contains a session description, for example written in Session Description Protocol (SDP, RFC2327) format that provides the called party with enough information to join the session. The session description normally enumerates the media types and formats that the caller is willing to use and where he wishes the media data to be sent. If the called party wishes to accept the call, he responds to the invitation by returning a similar description. Further, the control plane's signaling (which information cannot be lost during its transmission) and the user-plane's audio data (which may accept some loss but has real time characteristics) have different transport level requirements, which normally entail the transmission of the IP packets containing their corresponding data on separate bearers.

[0005] In some communication systems it is more important to have a fast call setup than to support end-to-end negotiation between the call parties which could even not be required at all if the audio codec and the relative parameters were fixed. Considering in particular a VoIP based environment this would mean that time consuming SIP signaling should be minimized in order to obtain fast call setup.

BARANY FAILS TO TEACH LOGICAL CALL PATH ESTABLISHMENT,  
IN RESPONSE TO EMBEDDED CALL SETUP SIGNALLING

Further, Barany fails to disclose, teach or suggest establishment, in response to the embedded call setup signalling, of a logical call path between the ones of the user-plane entities, which are to be involved in routing of the call-related user-plane traffic, as recited in the rejected claims. Rather, in Barany, the RTP bearer for user-plane traffic is established and the user-plane traffic is started after the separate SIP signalling procedure used for establishing the call setup (see Figs. 7A - 7C).

Barany further fails to disclose, teach or suggest forwarding any subsequent user-plane traffic relating the call and containing the call identifier over the call path from the calling subscriber to said call subscriber. The Office Action asserted that Barany, at lines 12--13 of paragraph 0064, teaches that after the call has been setup, communication between mobile station 20 and terminal 40 can proceed. However, Barany fails to teach or suggest that user-plane traffic is forwarded and routed between the calling subscriber and the called subscriber over a logical call path established between the user-plane entities which are to be involved in routing of the call, if the user-plane traffic relates to the call and contains the call identifier.

BARANY FAILS TO TEACH OR SUGGEST CALL IDENTIFIER ASSIGNMENT

In fact, Barany fails to disclose, teach or suggest assignment of a call identifier to a call. Although the Office Action referred to Barany at lines 10 – 12 of paragraph 44, that passage merely relates to assigning a traffic channel in the radio interface. One of ordinary skill in the art would readily recognize that a traffic channel assignment is not an assignment of a call identifier to a call because only a traffic channel is identified.

Therefore, one of ordinary skill in the art would have recognized that Barany teaches routing based solely on packet addresses. Thus, the routing in Barany is certainly not based on any identifier used in traffic channel assignment, as alleged by the Office Action.

SCHMID FAILS TO REMEDY DEFICIENCIES OF BARANY

Schmid fails to remedy these deficiencies because Schmid merely discloses a virtual private-switched telephone network.

CONCLUSION

Thus, the combined teachings of Barany and Schmid fail to disclose, teach or suggest claimed invention as recited in the rejected claims.

All rejections having been addressed, Applicants request issuance of a notice of allowance indicating the allowability of all pending claims. If anything further is necessary to place the application in condition for allowance, Applicants request that the Examiner contact Applicants' undersigned representative at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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